

ABSTRACT

The occurrence of a slippage of a robot in operation, following a desired gait, is determined, and the
5 permissible range of a restriction object amount, such as a floor reaction force horizontal component or a floor reaction force moment vertical component to be applied to the robot, is variably set according to a slippage determination result. A provisional motion of a desired
10 gait is determined using a dynamic model, and if the restriction object amount defined by the provisional motion deviates from the permissible range, then the motion of a desired gait is determined by correcting the provisional motion by changing the changing rate of the
15 angular momentum of the robot from the provisional motion so as to limit the restriction object amount to the permissible range, while satisfying a dynamic balance condition.